



Massachusetts Chapter

July 28, 2006

Minerals Management Service  
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**Project ID:** PRG-HQ-0005

**Title:** Cape Wind-Notice of Intent to prepare an EIS

### **Sierra Club Comments on the Notice Of Intent to Prepare an EIS on the Cape Wind Project**

The following comments on the Notice of Intent to prepare an Environmental Impact Statement (EIS) for the proposed Cape Wind Project (Federal Register May 30, 2006) are submitted on behalf of the Massachusetts Chapter of the Sierra Club (herein referenced as "Chapter" or "Club"). In May 2006 the Club issued a statement supporting the Cape Wind Renewable Energy Project as currently proposed subject to the following conditions (see attachment #1):

- Completion of the additional evaluation of risks to birds, marine animals, and marine habitats with a finding of no ecologically significant threat;
- Appropriate compensation to the U.S. Government and the Commonwealth of Massachusetts for the use of public waters;
- Adoption of monitoring protocols and plans, overseen by an independent third party, for enforceable mitigation to be implemented in the case of unanticipated adverse impacts.

On February 11, 2005 the Club submitted comments to the U.S. Army Corps of Engineers-New England District (COE) on the original Cape Wind Draft Environmental Impact Statement (DEIS) prepared by the project proponent Cape Wind Associates (see attachment #2). We noted the following weaknesses in this DEIS:

- Process concerns such as the lack of a governance process for renewable energy development within the U.S. Exclusive Economic Zone (EEZ). Since the Minerals Management Service (MMS) is in the process of developing these regulations we refer you to our comments on this process (see attachment #3). We support the MMS conducting the EIS analysis and developing the governance structure for renewable energy projects in the EEZ simultaneously for the Cape Wind project, but feel that this should be an exceptional situation. For other projects, there should be a governance structure in place and ocean zoning scheme that involves public dialogue on where these structures should go. The current process has been driven by private entrepreneurs with limited proactive public dialogue on the best locations from an environmental and implementation perspective.
- We have concerns that the development of the Cape Wind Project not lead to the wider

industrialization of Nantucket Sound from aquaculture projects, sand and gravel mining, oil and gas development, etc. Since Horseshoe Shoals is in federal waters surrounded by state jurisdictional waters, there is a need to coordinate state/federal regulations for this unique marine area. An example would be fisheries regulations in Nantucket Sound which are overseen by the Massachusetts Division of Marine Fisheries (DMF) and the oversight of the Cape Wind Project by the MMS. When the Cape Wind Project is constructed there are likely to be user conflicts between commercial and recreational fishers; environmentalists and animal rights activists; and recreational uses.

- The existing DEIS lacks a rigorous analysis of the economics of the Cape Wind project, including local job creation and tax revenues; impacts on energy prices; health impacts; etc.
- The DEIS failed to adequately describe the pre- and post-project monitoring program that would evaluate the impacts of wind energy development on: birds and bats; marine wildlife (fish, shellfish, sea turtles, and marine mammals) and their essential habitat; etc. We feel that the monitoring program should be linked to an adaptive management regime that would allow mitigation of unforeseen impacts. The current DEIS focuses on marine wildlife that is either harvested (Living Marine Resources) or protected (Protected Resources), but should be expanded to include the wider marine ecosystem in which Living Marine Resources and Protected Resources are imbedded. This would reflect an ecosystem approach to management that was recommended by the U.S. and Pew Ocean Commissions.
- Our comments on the original DEIS contained a number of specific comments on the inadequate discussion of sandy sediments and their associated benthic invertebrate fauna; finfish abundance/distribution for pelagic versus demersal species; assessment of recreational fish catches; and ignoring of the biological components of essential fish habitat (EFH). European wind farm monitoring program noise impact studies on marine mammals should be discussed. As pointed out in the Center for Coastal Studies report (January 10, 2005): "Toward an Ocean Vision for the Nantucket Shelf Region", Nantucket Sound is linked to a wider system and could impact the migration patterns of marine wildlife. The new EIS should address the potential impacts on marine wildlife that have wider spatial distribution patterns and undergo temporal shifts in distribution. The current DEIS assumes that all of the impacts will be local at small spatial and on short temporal scales and that mitigation is only necessary at this level.
- Similar concerns were expressed about the DEIS conclusion that there would be only one bird death daily. The current DEIS should address the potential for the wind towers as a barrier to bird movement and for displacing birds from the project area. This would include both resident and migratory bird populations. The current bird studies have not adequately characterized the bats, nocturnal passerines, and long-tailed ducks. The nocturnal movements of the passerines in the spring and fall may be especially important, since many of the continental populations of these species are declining. The seabird mortality estimates should include observations from European wind farms.

Since the MMS is seeking comments on the development, operation, and closure of the Cape Wind Project, we submit the following additional comments:

- We recommended a phased implementation of the Cape Wind Project that would be large enough to be economically feasible, but small enough to have limited impact relative to the full project. During this first phase the MMS could evaluate: avian hazards, visual effects, economic and social effects, and effectiveness of energy generation and delivery.
- The MMS should consider additional locations that could accommodate smaller, more distributed turbine placement. Some of these potential sites are listed in the Federal Register notice.
- MMS should fund and carry out evaluations of other offshore wind power sites in order to enhance the public dialog on future proposals. This will permit a process in which the public and the various levels of government (local, state, national) can rank projects side-by-side and obtain buy in for the

best locations for developing offshore wind energy.

- Have an independent organization carry out the monitoring program and have this overseen by a panel of academic experts with ex officio governmental officials. The MMS would retain primary management authority, but should coordinate their activities with appropriate state/federal agencies or the regional ocean councils recommended by the Ocean Commissions. There should be a citizen advisory panel to provide a local perspective on the significance of the monitoring program results to local wildlife and habitats.
- The EIS evaluation process needs to consider more explicitly environmental justice issues on the impact of higher energy prices on our low income citizens.
- Some type of performance bond system should be implemented to assure that post-closure dismantling of the wind farm occurs and the structures are not simply dumped in the ocean to become an artificial fish reef. There is also a need for money to be set aside to cover hazardous waste spills during construction and operation of the wind farm, so that the owner doesn't simply walk away leaving the public to fund the cleanup.

The Sierra Club thanks the MMS for the opportunity to comment on the NOI to prepare an EIS for the Cape Wind Project. We look forward to working with the MMS to complete the EIS in an expeditious fashion and implement this renewable energy project in an environmentally sound way. Our nation needs to find "greener" methods of meeting our energy needs which will reduce the greenhouse gas emissions which exacerbate global climate change which threatens the environmental support system for human society and all wild things and wild places.

Yours truly,

Mary Ann Nelson  
Chair, Massachusetts Sierra Club

James B. McCaffrey  
Director, Massachusetts Sierra Club

**Attachments, incorporated herein by reference:**

1. SC Policy on Cape Wind Project, Dated April 2006
2. SC Comments on Cape Wind DEIS, Dated February 24, 2005
3. SC Comments, MMS Rules Processing, RIN 1010-AD30, Alternative Energy Related Uses on the Outer Continental Shelf, Dated



## **STATEMENT OF THE MASSACHUSETTS SIERRA CLUB ON THE CAPE WIND RENEWABLE ENERGY PROJECT, MAY 2006**

The Sierra Club encourages the development of renewable energy sources of low environmental impact to reduce our nation's dependency on fossil fuels which result in pollution, global climate changes and risks to national security associated with the country's overwhelming reliance on fossil fuels.

The Sierra Club recognizes that balancing our needs for clean renewable energy against preservation of the environment will often entail tradeoffs that lead to difficult choices. Today, the threats of global climate change and atmospheric pollution require that we move expeditiously toward the adoption of rigorous energy conservation programs and the development of appropriately-sited facilities for the production of energy from renewable sources. The Sierra Club will support specific projects to develop renewable energy that pose little or acceptably low risk to the environment. Currently, wind energy is the most practical and most readily available of the presently existing renewable energy technologies.

Cape Wind Associates proposes to construct 130 wind turbines over a 25-square-mile area of Nantucket Shoal in Nantucket Sound off Cape Cod. The project is expected to produce 170 megawatts of electricity annually, equivalent to approximately 75 percent of the current electricity usage for Cape Cod.

The Sierra Club has conducted a technical review and assessment of the Draft Environmental Impact Report on Cape Wind and has called for inclusion of additional information on key topics in a Supplemental Environmental Impact Statement, including a more complete analysis of avian and marine wildlife risk, an improved alternatives analysis, adoption of rigorous monitoring protocols for project construction and operation, and an analysis of the project's economic and social equity impacts.

Following a preliminary assessment of the Cape Wind project and a preliminary analysis of field data and scientific studies conducted by the Massachusetts Audubon Society, The Sierra Club has tentatively concluded that the project does not pose a significant ecological threat to birds, marine animals and marine habitat.

**The Sierra Club supports the Cape Wind Renewable Energy Project as currently proposed subject to the following conditions:**

- **Completion of the additional evaluations risks to birds, marine animals and marine habitats with a finding of no ecologically significant threat;**
- **Appropriate compensation to the U.S. Government and the Commonwealth of Massachusetts for use of public waters; and**
- **Adoption of monitoring protocols and plans, overseen by an independent third party, for enforceable mitigation to be implemented in the case of unanticipated adverse impacts.**

The Sierra Club opposes out-of-process legislation or actions specifically directed against the Cape Wind project, including Alaskan Congressman Don Young's proposed amendment to a Coast Guard Reauthorization Bill that would give the Governor of Massachusetts veto power over the proposed wind farm in Nantucket Sound. The Sierra Club continues to call for the development of a comprehensive process and regulatory framework for the siting, leasing and permitting of offshore wind energy projects that allows public input and compensation to the U.S. and state governments for use of public waters.

*Adopted by the Massachusetts Chapter Executive Committee, April 2006*



Massachusetts Chapter

February 24, 2005

Ms. Karen Kirk Adams  
Cape Wind Energy Project Manager  
Corps of Engineers, New England District  
696 Virginia Road  
Concord, MA 01742-2751

Secretary Ellen Roy Herzfelder  
Attn: MEPA Office, EOE A File # 12643  
100 Cambridge Street, Suite 900  
Boston MA 02114

**RE:** Army Corps file number NEA-2004-338-1,  
Attention: Regulatory Division  
EOEA File # 12643

Dear Ms. Adams and Secretary Herzfelder:

On behalf of the Sierra Club (the "Club"), we formally submit our comments on the Cape Cod offshore wind energy development proposal, *Army Corps of Engineers File Number NEA-2004-338-1* and *EOEA File Number 12643*. The Sierra Club supports renewable energy to reduce both our dependency on fossil fuels as well as the resultant negative environmental impacts caused by fossil fuel energy production. However, we have some concerns about the particular environmental impacts of a project on this site. These impacts require a more detailed analysis before the project can progress to the next stage of permitting.

**We therefore formally request a Supplemental Draft Environmental Impact Statement (SDEIS) to address many of the concerns outlined in our comments.** We are confident that a thorough SDEIS analysis will help provide a more comprehensive framework necessary for any regulatory entity to make a final and credible disposition of the permit applications for the Cape Wind project.

Furthermore, an SDEIS will provide sufficient information to allow the Sierra Club and other interested parties to make an informed recommendation - based on the merits of the proponent's proposal - on whether the project, including scale and location, is appropriate for this site, and in the best public interest.

The Sierra Club recognizes the dilemma presented with balancing our needs for clean renewable energy sources against the preservation of the natural environment. Given the twin threats of global climate change and depletion of finite fossil fuel supplies, we must move

expeditiously towards the exploration and adoption of appropriately sited renewable energy sources combined with rigorous energy conservation programs.<sup>1</sup>

We would also like to make it clear that the Sierra Club is asking for additional information in an SDEIS to address deficiencies in the DEIR analysis and as part of the ongoing permitting process and project review which we have supported since the project's inception. Finally, it is important to recognize the precedent setting nature that any approvals or permitting of this project will have on future offshore wind farm proposals in U.S. coastal waters.

**Specifically, the SDEIS should include a more thorough analysis of:**

- The immediate development of a process for ocean governance, enabled by new federal legislation and regulations, and in response to recommendations of the *U.S. Commission on Oceans Policy* and the *Pew Oceans Commission*, to plan and lease federally governed continental shelf waters for wind energy.
- An improved alternatives analysis, including a phased implementation, distribution over several site locations, a reduced project level, or combinations thereof.
- A more complete evaluation of avian and marine wildlife risk, based on more extensive data than currently collected.
- The economic and social equity/fairness impacts of the project.

## **1. COMMENTS ON THE PROCESS**

### ***1.1 Need for a More Rigorous and Comprehensive Review Process and Ocean Zoning***

The Club believes that the Army Corps of Engineers (COE) has done a reasonable job in pursuing a rigorous and comprehensive process for a project area that lacks federal and state guidelines. However, because of this lack of guidelines, the regulatory framework the Corps currently has available for siting and permitting offshore wind facilities is nowhere near a full-fledged and adequate process.

The Club therefore supports the immediate development of a process, implemented by new federal legislation, to plan and lease federal continental shelf waters for wind energy or other proposed uses. This process should be transparent and it should provide for substantial public input. It should include evaluations in both state and federal waters. The process should identify where development of wind energy is economically feasible and it should determine where environmental impacts are minimal. The process should outline pre-project and post-project monitoring for wind energy projects. This monitoring should include evaluation of impacts on marine habitat, birds, bats, and marine animals.

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<sup>1</sup> Please see Appendix A for a more complete narrative of the Massachusetts Sierra Club's views on **Global Warming, Renewable Energy, and the Preservation of the Natural Environment**, including **The Potential for Wind Development in New England** (attached, 2 pages).

**This process should address the following elements:**

- Leasing conditions
- Jurisdiction for lease and permit conditions
- Maintenance
- Liability
- Environmental impacts, mitigation, and monitoring
- Problem reporting
- Decommissioning

**This process should be structured to provide for:**

- Substantial public input in a transparent fashion.
- Evaluation of projects in both state and federal waters.
- Identification of where development of wind energy is economically feasible and where environmental impacts are minimal.
- Pre-project and post-project monitoring for wind energy projects. Monitoring should include evaluation of impacts on marine habitat, including birds, bats and marine wildlife, fisheries, and marine mammals.
- Support for coordinated planning and assessment of wind energy projects among federal, state and local regulators. An important element which the Club supports is the creation of the Ocean Zoning Task Force.

Monies from leasing of public offshore lands for wind energy should be used to create a fund to be used for coastal and near-shore habitat protection and conservation in a manner similar to the original intent of assignment of funds derived from offshore oil and gas leasing into the Land and Water Conservation Fund. The Cape Wind project should be retroactively subjected to lease payments and arrangements called for by any new legislation.

***1.2 Need for an Improved Alternatives Analysis***

The DEIS does not carry out a sufficient analysis of alternatives to the proposed project. Several possible alternatives to the development of this precedent-setting offshore wind energy project need to be considered and evaluated by the Corps of Engineers. These alternatives could potentially significantly benefit resources held in the public trust, and include:

- 1) a phased-in approach to project construction contingent on satisfactorily meeting specified design and impact thresholds,
- 2) consideration of additional locations that could accommodate smaller, more distributed turbine placement for the total of 130 wind turbines,
- 3) consideration of a smaller overall project size,
- 4) inclusion of thresholds, the exceedance of which would trigger additional mitigation and/or more prolonged monitoring.

A sound evaluation of these options, particularly for projects like Cape Wind that have been proposed in the absence of a more comprehensive ocean zoning process, could significantly increase the public benefit derived from offshore wind energy development. Such an evaluation

would likely improve public acceptance of offshore wind energy and might serve to accelerate appropriate development during the next decade.

## 2. PROJECT IMPACTS

### 2.1 Socio/Economic Impacts

The DEIS lacks a rigorous and thorough analysis of the economics of the energy situation (including local job creation and tax revenues, impact on energy prices, health impacts, etc.). Some major concerns are the potential industrialization of Vineyard Sound, compatible uses with other commercial and recreational activities on the shoals, consideration of the area impacted in contrast to other energy options, or to greater energy-use efficiencies, and how well this project meets the needs of the Commonwealth's renewable-energy-production strategy. Also, approval of this project should not open the floodgates for other industrialized uses such as sand and gravel mining, oil and gas exploration, aquaculture, or other industrial pursuits.

Some offshore wind power, likely in Massachusetts, will be necessary in any conceivably effective energy scenario. A process needs to be created that all stakeholders will accept as credible to rank sites and projects. To do so, a process must be developed which is deemed to be fair by various factions, provided that all sides commit to the idea that some offshore wind power development will inevitably take place somewhere.

The DEIR analysis is misleading on the issue of comparing the wind farm project benefits to the Canal Electric Plant (in terms of both "greener" energy and Cape Wind's cost/benefit analysis in which most of the health benefits accrue from reduced health outlays accompanying closure of Canal Electric or one of the other "filthy five" power plants). Many social scientists feel that such comparisons are only permissible if the fossil fuel plants are actually closed and the energy from wind in fact replaces the energy formerly generated from the fossil fuel plants. Since many view this as a unlikely scenario, the Cape Wind cost/benefit is inaccurate. The economic benefits are *overestimated* based on reduced health costs to society from the burning of fossil fuels to generate electricity. The environmental costs to ecosystem goods, services, and natural capital are *underestimated* since there is no valuation of these in the DEIS. Non-market evaluation of ecosystem goods and services, using classical natural resource economics techniques, or other ecological economics approaches, should be used to accurately address the cost component.

Finally, any comparative analysis of energy projects should be valid and evaluate projects of similar energy production and scale. This project will produce 170 MW. In the DEIR it is compared with renewable and nonrenewable projects at 200-1500 MW, with most analyses compared with a 454 MW plant. This is simply not a valid comparison and should be adjusted in the SDEIS.

### 2.2 Avian Impacts

We acknowledge the effort that has been made in the project design to be "bird-friendly" as well as the effort made to assess the bird population in the Nantucket Sound area and to evaluate the avian-related experience of other similar wind projects (DEIS Appendix 5.7a). However, the Club continues to be concerned with the lack of definitive knowledge of bird/bat impacts. Not enough is known yet to reliably ascertain the overall impact, especially for long-tailed ducks and nocturnal passerines. These impacts must be evaluated and weighed in



relationship to the current impacts from fossil fuel generation through air pollution, greenhouse-gas generation, and fuel spills on land and water, all of which appear to have a more deleterious effect on bird species. The Club would like to see ongoing appropriate data gathering and analysis on this issue, possibly phasing in the project so that it could be redesigned if found to be unduly injurious to birds or bats.

In particular, the Club would like to endorse the Massachusetts Audubon Society's request for three years worth of seasonal avian information as a necessary component of the NEPA review. Data on three groups of birds are needed: terns, winter waterfowl, and migrating passerines (songbirds). The DEIS contains two years of data on terns and winter waterfowl, and one incomplete year of information on migrating passerines, thereby falling short of the three years for each as requested by Mass Audubon.

The nocturnal movements of passerines over Nantucket Sound during spring and fall are a concern. Continental populations of the majority of these species are declining and the threats to passerines caused by their use of the project area should be evaluated over two years in addition to the data for 2002 included in the DEIR.

The estimate of one bird death daily (365 per year) from the Cape Wind project needs better support and clearer explanation. Estimates of seabird mortality should incorporate literature from European wind farms, many of which report significantly higher mortalities. The DEIS/SDEIS should contain an evaluation of the potential effects of lights on sea ducks and passerines. It should also contain an evaluation of the wind towers as a barrier to bird movement and of potential effects of displacement of birds from the project area.

Due to the high degree of uncertainty associated with this project, a range of figures should be presented rather than a single number of estimated bird collision deaths per year. Additionally, more data is needed before supporting a conclusion that there is a minimal risk to bat species.

Other wildlife threats have also been addressed and are described in section 5.7.3.4 (Potential Impacts to Endangered/Threatened/Other Listed Species). This section needs to be expanded because certain species have been omitted, notably long-tailed ducks and nocturnal passerines, and bats. This must be addressed in the SDEIS.

### **2.3 Marine Wildlife Impacts**

The DEIS's conclusion that any impacts of the Cape Wind project on the benthic, finfish, and protected resources would be localized, transitory in nature, and minimal in impact with no cumulative impacts, is based upon the small area of Nantucket Sound effected by the construction of the wind farm, and the laying of the two electricity cables under the seafloor. For the finfish and marine mammal stocks, the Nantucket Sound populations are components of populations spread over larger regions and thus localized, transitory effects in the sound are unlikely to have significant impacts at large spatial and/or longer temporal scales. Since natural trust biological resources respond to smaller scale, shorter-term processes, the question is whether the wind farm will affect the emergent properties of the system at these temporal/spatial scales. The DEIS does not address this.

**Additional marine wildlife aspects the SDEIS should analyze:**

- The sandy sediments and relatively shallow depths result in a benthic macrofaunal community that is adapted to periodic disturbance and confined to the upper 5 cm of the sediment surface. It is not clear that simply examining the community composition based upon relative abundance and diversity is an adequate basis for examining potential impacts on the macrofauna, since it ignores dynamic components related to productivity and ecosystem functioning.
- The Massachusetts Division of Marine Fisheries (DMF) bottom trawl survey is not an adequate fishery-independent method for estimating the abundance of shellfish resources. A benthic monitoring program before and after the Cape Wind project construction will be necessary using appropriate methodologies (scallop dredges, hydraulic dredges, epibenthic sleds or box cores).
- The finfish abundance/distribution is assessed using the catch per unit effort (CPUE) from the DMF spring and fall bottom trawl surveys (BTS). Given long term changes in the relative abundance of pelagic and demersal fish species on the Northeast Continental Shelf and the catch efficiency differences between pelagic and demersal fish species to trawl gear, the BTS database should be augmented by hydro-acoustic surveys (sea-truthed with mid-water trawls) to better characterize the pelagic finfish community. In addition, the SDEIS should examine some dynamic components of the fish community to see if the wind farm exerts effects at the smaller-spatial shorter-time scales.
- The use of the NMFS Marine Recreational Fisheries Statistical Survey (MRFSS) and the project proponent's phone intercept survey of local charter and head boat captains does not suffice to characterize the recreational fisheries effort and catch in Nantucket Sound. At a minimum, one should also conduct a pilot project or phased construction approach for the wind farm to evaluate the potential impacts on coupling between pelagic and demersal fish community at small spatial, short temporal scales, and use an adaptive management approach to make necessary adjustments if it proves problematic.
- The essential fish habitat (EFH) designations focus on bottom habitats, temperature, salinity and depth, and ignore predator-prey interactions and competition for common prey which are important biological components of EFH. Changes in the balance between pelagic and demersal fish species could change these biological EFH components. The functional value of EFH is a component of the newly emerging ecosystems approach to managing marine resources (emphasized in the various Ocean Commission reports and the Massachusetts Oceans Management Task Force).

**2.4 Visual Impacts**

Despite protestations to the contrary, the Club feels that the visual impact is minimal. Respected computer simulations of the wind turbines viewed from the closest point on the Cape show widely-spaced objects, each of which have the height of a small ship on the horizon, but with a very thin width. The turbines are barely visible, and on a hazy day would not be visible at all. Also, visibility does not necessarily imply desecration. For example, lighthouses represent a much stronger intrusion of man-made structures on the coastline view, and they are not regarded as a desecration to visibility, but rather a definite and major aesthetic enhancement. In addition, our research has been unable to uncover a single instance in which the presence of wind farms resulted in a decline in property values.

### 3. FINAL RECOMMENDATIONS TO INCLUDE IN THE SDEIS AND/OR FEIS

- **Create a process for ocean governance in response to the U.S. Commission on Ocean Policy and the Pew Oceans Commission recommendations.** The commercial use of our last public trust resources (i.e., the ocean) should be managed by a public agency that has a stewardship charge for marine ecosystems, possibly the *National Oceanographic and Atmospheric Administration* (NOAA). There must be provisions for leasing conditions, royalty payments, and clear jurisdiction for setting lease and permit conditions, including requirement for responsibility for maintenance, liability, avoidance/minimization/mitigation of environmental impacts, monitoring requirements with clear reporting and response in case of problems, decommissioning, and more. The Cape Wind project should not be “grandfathered” but be subject to the process as the process evolves, (i.e., following any project approval, stakeholders such as ourselves should nonetheless have standing to be able to revisit the project impacts as results come in and the process improves.)
- **Carry out a phased implementation, with a first phase large enough to be economically feasible and small enough to have a limited impact relative to the full project.** During this first phase, continue data gathering and analysis on concerns such as avian hazards, visual effects, economic and social effects, and effectiveness of energy generation and delivery. Implement a governance process, within a reasonable span of time for the project developers, including design and impact thresholds, and then come to a decision on whether and how to implement the remainder of the proposed project. The results from the phased implementation itself will supply important information for this subsequent decision.
- **Consider additional locations to accommodate smaller, more distributed projects.**
- **Create a process that all stakeholders can support to rank sites and projects.** Have all sides commit to the idea that some offshore wind power development, including in Massachusetts, is likely and/or necessary, and will be accepted if the locations were decided by processes deemed to be fair by all involved.
- **Fund and carry out evaluations at other likely sites for offshore wind power so as to be more prepared for future proposals.**
- **Develop an evaluation process in accordance with the Sierra Club’s concerns and recommendations, particularly with respect to the associated socio-economic and equity issues, comprehensiveness and fairness, and wildlife and environmental impacts.**

Thank you for this opportunity to comment.

Very truly yours,  
*James McCaffrey*  
Director, Massachusetts Chapter

*Mary Ann Nelson*  
Chair, Massachusetts Chapter

**Attached:** Appendix A - *Global Warming, Renewable Energy, and the Preservation of the Natural Environment*  
Appendix B - *Motion of Chapter Executive Committee, February 19, 2005*

**Appendix A:**  
**Sierra Club Comments on Cape Wind Energy Proposal**

**COE File # NEA -2004-338-1**  
**EOEA File # 12643**

**Global Warming, Renewable Energy,  
and the Preservation of the Natural Environment**

The Sierra Club recognizes the dilemma presented with balancing our needs for clean renewable energy sources against the preservation of the natural environment. Given the twin threats of climate change and depletion of finite fossil fuel supplies, we must move expeditiously towards the exploration and adoption of appropriately sited renewable energy sources combined with rigorous energy conservation programs. The Club is strongly committed to renewable energy and energy efficiency and supports the approach taken in Massachusetts and many other states to establish *Renewal Portfolio Standards* (RPS) that promote the increasing generation and use of renewable energy sources.

However, it is important to recognize that wind energy itself – whether it be offshore or on mountain tops and ridge-lines – requires the large-scale industrialization of both private and public natural resources. Renewable energy projects uniquely create the potential to both benefit and harm the natural environment. There is, however, a fundamental difference between *renewable* as opposed to *fossil-fuel* energy production. The primary impacts from fossil fuel energy production are both short and long term, and potentially irreversible. These impacts include the extraction, processing, and delivery to market of oil, gas, and coal resources combined with the air quality and global warming impacts created by the burning of fossil fuels. Renewable energy resources such as wind, aside from the immediate construction impacts, *have the potential to be relatively benign*, either from an operational standpoint, or even if it is deemed necessary at a later time to dismantle a facility.

**In particular, the Cape Wind proposal has the potential to establish a precedent by which all other offshore and large scale wind energy proposals are evaluated, and to that extent the framework for the review should be as thorough and as transparent as possible.**

The Cape Wind project is controversial for a variety of reasons. In spite of recent lead articles in *Business Week* and *Fortune Magazine*, and concern by the re-insurance industry and the Pentagon, many people are still not aware of the urgency of our energy and global-warming situation. Every delay in taking action increases the necessary reduction in emissions and decreases the time available to accomplish such a reduction. When truly serious climate disruptions come into play – and they are already beginning to surface -- objections to the wind farm that presently loom large may become trivial by comparison.

**Wind Power Potential in New England**

The Club is aware that unlike most other significant energy sources, wind power is one that New England possesses in a reasonably significant quantity. For the Cape, a comparison can be made between the Cape Wind Project and the existing Canal Power Station that serves much of the Cape with traditional fossil-fuel energy, to determine what proportion of existing generating capacity the Cape Wind project can provide.

The Cape Wind Project attributes are given in Section 4.1 of the subject DEIS. The estimated annual energy generated is approximately 1,500,000 MWh (assuming an average wind velocity of 19 mph), which translates to an average annual output of 170 MW. It emits no pollutants into the atmosphere and requires no supply chain.

The Canal Electric Power Plant attributes can be found at the Cape Cod Center for Sustainability web site: [www.sustaincapecod.org/SIR03/EnvEnergy.htm](http://www.sustaincapecod.org/SIR03/EnvEnergy.htm). It is an oil-fired station located in Sandwich, Massachusetts, on 53 acres along the banks of the Cape Cod Canal. It has two generating units. Unit 1, a base load unit, has a yearly net generation of about 3,200,000 MWh while Unit 2, a cycling unit, has a net yearly generation of about 2,400,000 MWh. The total net generation is therefore about 5,600,000 MWh. The power plant emits annually some 5,300,000 tons of carbon dioxide, 30,000 tons of sulfur dioxide, and 8000 tons of nitrogen oxides. It requires an oil supply chain consisting of barges that continually threaten the shores of Buzzards Bay with black, viscous #6 residual oil.

The ratio of power deliverable to the grid from the wind farm compared to that of the Canal plant over a year is: 1,500,000 MWh / 5,600,000 MWh which equals approximately 0.26.

At full capacity, therefore, the Cape Wind project could theoretically supplement or replace over one-quarter (26%) of the energy from the fossil-fuel plant on the Cape Cod Canal (specifically it can supplement or replace Unit 2, the cycling generator, which is closer to the variable-yield pattern that the wind farm would produce), in turn saving approximately 1.3 million tons of carbon dioxide annually, as well as around 7500 tons of sulfur dioxide and 2000 tons of nitrogen oxides. This represents a potentially significant step towards less greenhouse gases, less air pollution, and less dependence on foreign oil supplies for New England's energy needs.

It should be noted that the above represents a brief analysis. In particular, it is unlikely that the power produced by the Cape Wind project would actually reduce the power produced by the Cape Cod Canal project, and while the wind farm may preclude other fossil-fuel generation, that might not necessarily take place in Massachusetts. However, there is definite potential for significant renewable energy production with clear resulting effect on overall fossil-fuel usage. **This topic should be addressed by a full analysis in the DEIS or SDEIS that considers all economic and environmental impacts and making sure that all benefits and costs are properly estimated.**

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*The Sierra Club's comments on the Cape Cod offshore wind energy proposal are a joint effort of the staff and volunteer leaders of the Massachusetts Sierra Club, including extensive review and input by Sierra Club members, the Chapter Executive Committee, and the Chapter Energy Committee.*

*For more information, please visit [www.sierraclubmass.org](http://www.sierraclubmass.org).*

**Appendix B:**

**Motion of Massachusetts Chapter Sierra Club  
Re: Cape Wind Offshore Energy Proposal**

**MOTION  
February 19, 2005**

While the Sierra Club is generally supportive of the development of alternative energy choices, the Massachusetts Chapter believes it still too soon for any responsible party to make final disposition on the permit applications for the Cape Wind Offshore Energy Project. Given the precedent setting nature of this unique, and uniquely important, project, the chapter recommends that further decision-making be postponed until the preparation of a Supplemental DEIS that addresses the concerns outlined in the Sierra Club comments. Following, the successful completion of this SDEIS, the Chapter, and authorities having jurisdiction, can return to consideration of the merits of the proponent's project.

***Passed unanimously by the  
Executive Committee of the Massachusetts Chapter Sierra Club,  
February 19, 2005***

February 28, 2006

Minerals Management Service  
Attn: Rules Processing Team  
381 Elden Street  
MS-40-24  
Herndon, Virginia 20170-4817

**Re: RIN 1010-AD30, Alternate Energy-Related Uses on the Outer Continental Shelf**

To Whom It May Concern:

This letter is to provide formal comments in response to the MMS December 30, 2005 Advance Notice of Proposed Rulemaking (ANPR) Federal Register Notice pursuant to RIN 1010-AD30 on Alternate Energy-Related Uses on the Outer Continental Shelf.

The national office of the Sierra Club has filed comments on this ANPR. We support their statement, both their general comments and their specific comments on the various program areas. We supply herewith additional comments below, which track the format shown in the Federal Register Notice and respond to the numbered questions identified there.

*2. Possible development scenarios include phased access rights, which would allow for resource and/or site assessments and research prior to securing additional access rights. Rights could be permitted on a case-by-case basis. Development rights would be secured by a competitive process. An alternative would be to require that interested parties secure the access rights to an area prior to conducting assessments and research. Please comment on these possible options.*

The MMS should carry out a phased implementation, with a first phase large enough to be economically feasible and small enough to have a limited impact relative to the full project. During this first phase, continue data gathering and analysis on concerns such as avian hazards, visual effects, economic and social effects, and effectiveness of energy generation and delivery. Within a reasonable span of time for the project developers, come to a decision on whether and how, including design and impact thresholds, to implement the remainder of the proposed project. The results from the phased implementation itself will supply important information for this subsequent decision.

Furthermore, approval of an alternative-energy project should not open the floodgates for other industrialized uses such as sand and gravel mining, oil and gas exploration, aquaculture, or other industrial pursuits.

*4. What constitutes a geographical area of interest?*

Geographic areas of concern should be based upon biogeographic provinces and hydrologic regimes (i.e. Northeast Continental Shelf Large Marine Ecosystem- north and south of Cape Cod and inshore, shelf, and offshelf regions).

The evaluation process should include evaluations in both Federal and state waters, and should consider distributed locations that could accommodate smaller, more distributed turbine placements.

*5. What assessments should we require prior to competition?*

A project must include a full analysis, in the EIS or otherwise, that considers all economic and environmental impacts and makes sure that all benefits and costs are properly estimated. These include, among other benefits and costs:

- Compatibility with other commercial and recreational activities on and in the waters
- Concerns about the potential industrialization of offshore waters
- Potential effects of structures on attracting fish species and marine mammals through role as an artificial reef in an otherwise uniform pelagic environment and benthic habitat.
- Local job creation and tax revenues, impact on energy prices, health impacts, etc.

The MMS or project applicants should also fund and carry out evaluations at other likely sites for offshore wind power so as to be ready for future proposals.

*7. Should MMS take a broad approach to developing a program, or should efforts be targeted to specific regions?*

The MMS should create a process for ocean governance incorporating much of the US Ocean Commission and Pew recommendations. There must be provisions for specific leasing conditions, royalty payments, clear jurisdiction for setting lease and permit conditions, including requirement for responsibility for maintenance, liability, avoidance/minimization/mitigation of environmental impacts, monitoring requirements with clear reporting and response in case of problems, decommissioning, etc.

*8. How should MMS consider other existing uses when identifying areas for access?*

The MMS must examine potential user conflicts between recreational and commercial fishermen/women; nature watching cruises; navigation; etc. Since the Coast Guard is over-extended dealing with homeland security and reducing drug smuggling, there could be a real problem resolving conflicts out on the water over such vast areas.



*9. How should MMS balance existing uses within an area with potential wind and current energy projects?*

Only after the requirements for alternative energy needs have been met should non-extractive uses receive priority. The only extractive uses that should be allowed are ones compatible with the above two categories, and are third priority after the above two.

*11. What criteria (e.g. environmental considerations, energy needs, economics) should MMS consider in deciding whether or not to approve a project? What criteria should MMS consider for different competing projects (i.e. wind versus current) for the same site?*

As a minimum the following criteria should be rigorously observed:

- Economically feasible
- Minimal environmental impact
- The project meets the crucial needs of the region's renewable-energy-production strategy, including state and regional plans.

*12. What types and levels of environmental information should MMS require for a project?*

The MMS should require the applicant to show how the alternative energy project:

- Moves the country towards energy self-sufficiency
- Allows sustainable use of renewable resources
- Considers both direct and indirect environmental and economic impacts
- Contributes towards increasing the wealth of the nation.

*13. What types of site-specific studies should MMS require? When should these studies be conducted? Who should be responsible for conducting these studies?*

For avian and marine wildlife impacts, we endorse the Massachusetts Audubon's standard of three years' worth of seasonal avian information, as well as bat information, as a necessary component of a review. Data on important groups of birds are needed. For example, in Nantucket Sound these include terns, winter waterfowl, and migrating passerines (songbirds). Any impacts of a project on the benthic, finfish, and protected resources need to be localized, transitory in nature and minimal in impact, with no cumulative impacts.

Additional studies include:

- Wind potential

- Economic impact, both positive and negative
- Needs assessment
- Impact on shipping and other human-based marine activity
- Lifecycle costs, including eventual decommissioning

*14. What should be the goals and objectives of monitoring, mitigation, and enforcement?*

The goals and objectives for monitoring, mitigation and enforcement should be framed within an ecosystem approach to management context as recommended by the U.S. and Pew Ocean Commissions with proactive involvement of various constituent groups (environmentalists, animal rights groups, fishers, navigation interests, extractive industries, etc.- the Canadian Eastern Scotian Shelf Integrated Management project can be a good model) and regional councils to coordinate state/federal governmental efforts (i.e. Gulf of Maine Council on the Marine Environment as a model).

*15. What types of impacts are of concern? What are effective approaches for mitigating impacts? How can mitigation effectiveness and compliance with Federal environmental statutes be assessed?*

Some major concerns are the potential industrialization of waters such as Vineyard Sound, compatible uses with other commercial and recreational activities on the shoals, consideration of the area impacted in contrast to other energy options or to greater energy-use efficiencies, and how well this project meets the needs of the state's or Federal renewable-energy-production strategies. Also, approval of this project should not open the floodgates for other industrialized uses such as sand and gravel mining, oil and gas exploration, aquaculture, or other industrial pursuits.

*17. How should environmental management systems be monitored (by the applicant, the MMS or by an independent third party)? What should be the MMS roles versus the roles of industry for ensuring appropriate oversight and governance?*

The monitoring program should be based upon permit requirements, potential multiuser conflicts, and management information needs on environmental/economic impacts of the project.

*21. How should operational activities be monitored (e.g. annual on-site inspections with verification of operating plans)? Is there an appropriate role for the applicant and independent third party certification agents? Describe existing models that could serve as a prototype inspection and monitoring program.*

The monitoring program should include thresholds, the exceeding of which would trigger additional mitigation and/or more prolonged monitoring.

*23. What should the payment structure be designed to collect? Should payments be targeted at charging for use of the seabed? Should payments try to capture the opportunity costs of other activities displaced by the activity? Should the payment structure be designed to capture a portion of the revenue stream, and if so, under what circumstances?*

Monies from leasing of public offshore lands for wind energy should be used to create a fund to be used for coastal and nearshore habitat protection. They should by no means go into the general fund.

*25. What methods are used by the renewable energy industry to quantify the risk and uncertainty involved with estimating the size of a renewable energy resource, and evaluating its profitability?*

The MMS should follow the U.S. Environmental Protection Agency's place-based ecological risk assessment paradigm, rather than the Environmental Impact Statement approach utilized by industry. This would allow the public to see the relationship between human stressors; environmental effects on renewable resources; measures of effect (monitoring); risk communication methods and risk management (mitigation and enforcement). As in any major project, the industry must be held accountable to standards and risks.

*28. Increased reliance on renewable energy offers both economic and environmental benefits. What are the public benefits to society and do they differ from market driven benefits?*

Renewable power generates no greenhouse gases. According to the International Panel on Climate Change (IPCC) the climate of our planet is changing more rapidly than at any time in history as a result of emissions of greenhouse gases such as carbon dioxide, which must decline by approximately 70% percent over the next fifty years. In addition, renewable power avoids the depletion of finite fossil fuel supplies that otherwise threatens our national economy and way of life.

*31. Should a broad approach be taken to developing a program or should efforts be targeted to specific regions with commensurate coordination and consultation?*

A process needs to be created that all sides will buy into to rank sites and projects, with a part of that process being that the rankings are decided by processes that are deemed fair by the various sides and that all sides commit to the idea that some offshore wind power will take place.

*32. Would the establishment of Federal/state cooperatives for targeted areas be useful? Similar to the process for OCS oil and gas program formulation, should we solicit comments on which areas of the OCS should be included or excluded from the program? After establishing where there is consensus in support of program activities, should coordination and consultation efforts be directed to those areas? Conversely, should such efforts be curtailed or abandoned for areas recommended for exclusion?*

We definitely support a coordinated planning and assessment of wind energy projects among federal, state and local regulators, including Federal/state cooperatives for various targeted areas. An important element of this is the creation of the Ocean Zoning Task Force.

The process should include evaluations in both Federal and state waters, and the targeted process must include open public input and comments.

*34. Should procedures for consulting with interested and affected parties be codified in the regulations? In general? In detail?*

Yes, effective, clear, and timely procedures should be codified in the regulations. The procedures should be transparent and allow for substantial public input

Thank you very much for your availability through this comment process. We appreciate this opportunity to provide these comments on the ANPR, and look forward to your response to them and to working with you in the future.

Sincerely,

David Heimann  
Chair, Energy Committee  
Sierra Club Massachusetts Chapter